

App. No. 09/779,788
 RCE Amendment dated 12/8/2005
 Reply to FINAL Office Action of 06/08/2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) A multi-tone X-DSL communication device with a plurality of shared and discrete components forming a transmit path and a receive path configured to couple to a communication medium to communicate multi-tone modulated communication channels, and the multi-tone X-DSL communication device comprising:

~~a Fourier transform engine for transforming transmitted and received communication channels between the time domain and the frequency domain using a common set of tones spanning a shared frequency range for the transmitted and received communication channels;~~

~~an Walsh encoder on the transmit path coupled to a Fourier transform engine and the Walsh encoder configured to generate data redundancy on the transmit path by replicating data in the transmitted communication channel and encoding the replicated data encode with a first Walsh code sequence codeword successive symbols of a transmitted communication channel signal; and~~

~~an inverse Fourier transform component on the transmit path coupled to the Walsh encoder to transform encoded symbols of the transmitted communication channel signal from the frequency domain to the time domain for transmission over the communication medium to an opposing communication device on a common set of tones;~~

~~a Fourier transform component on the receive path, and the Fourier transform component configured to receive from the opposing communication device on the common set of tones a communication channel signal encoded by the opposing communication device with a second Walsh codeword orthogonal to the first Walsh codeword and to transform the received communication channel signal from the time domain to the frequency domain; and~~

~~a Walsh decoder on the receive path, and the Walsh decoder coupled to the Fourier transform component on the receive path and configured to decode a with the second Walsh~~